



Climate-related physical risks: What is the value to organizations?

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Why do physical risks matter?

Increasingly, organizations are having to contend with two types of climate-related risks: physical risks and transition risks. Physical risks result from global meteorological and biological-ecological changes as greenhouse gases (GHGs) accumulate in the atmosphere, causing fundamental changes globally, such as rising global mean temperatures and changing precipitation patterns. Transition risks arise as national economies and organizations themselves transition to a lower greenhouse gas (GHG) future.

Physical risks exist on an expansive spectrum, varying in type, duration, frequency, and severity. Due to this wide range of risks, it is crucial for organizations to identify which physical risks are most relevant to their operation or lines of business by location; organizations with complex value chains need to specifically focus on understanding which areas of their value chain will be affected as well as the most material financial consequences in terms of their business operations. Physical risks are often undermanaged and underreported due to limited financial quantification and analysis, yet as climate-driven changes continue, physical risks will become increasingly more common and likely more severe.

For this reason, organizations need to have a greater understanding of the threats and materiality that these risks pose, both in regions from where they source their inputs or produce their goods and services, as well as the geographic markets where their customers reside. Armed with this understanding, they can begin to develop concrete, actionable mitigation and adaptation plans to drive climate-resilient growth.



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Understanding physical risks

Physical risks resulting from climate change can financially affect organizations by directly damaging their assets—such as distribution centers or commercial real estate holdings—and indirectly by disrupting their supply chain or workforce.

Most disclosure frameworks and standards break physical risks into two core categories: (1) acute physical risks, and (2) chronic physical risks. Acute physical risks refer to physical risks that are event-driven and include more extreme weather events or destructive natural catastrophes, such as cyclones, hurricanes, floods, and wildfires. Acute physical risks can affect human health, damage infrastructure and property, reduce asset values, severely damage ecosystems, and decrease productivity. In addition, they can disrupt economic activity and trade, create resource shortages, and divert capital from more productive uses.

In contrast, chronic physical risks are more long-term shifts in climate patterns and changes in the natural environment, such as changing global mean temperatures, changes in precipitation patterns, altered snowpacks, and modified weather patterns, which may lead to sea level rise or chronic heat waves. Chronic physical risks affect the livability of different regions and pose significant risks to human health, food security, and water resources. Overall, the impact of physical risks varies depending on the organization's exposure and vulnerability to these acute and chronic physical risks. Consequently, understanding physical risks and embedding them into an organization's risk assessment and long-term strategy will better position them to successfully meet climate-related challenges.

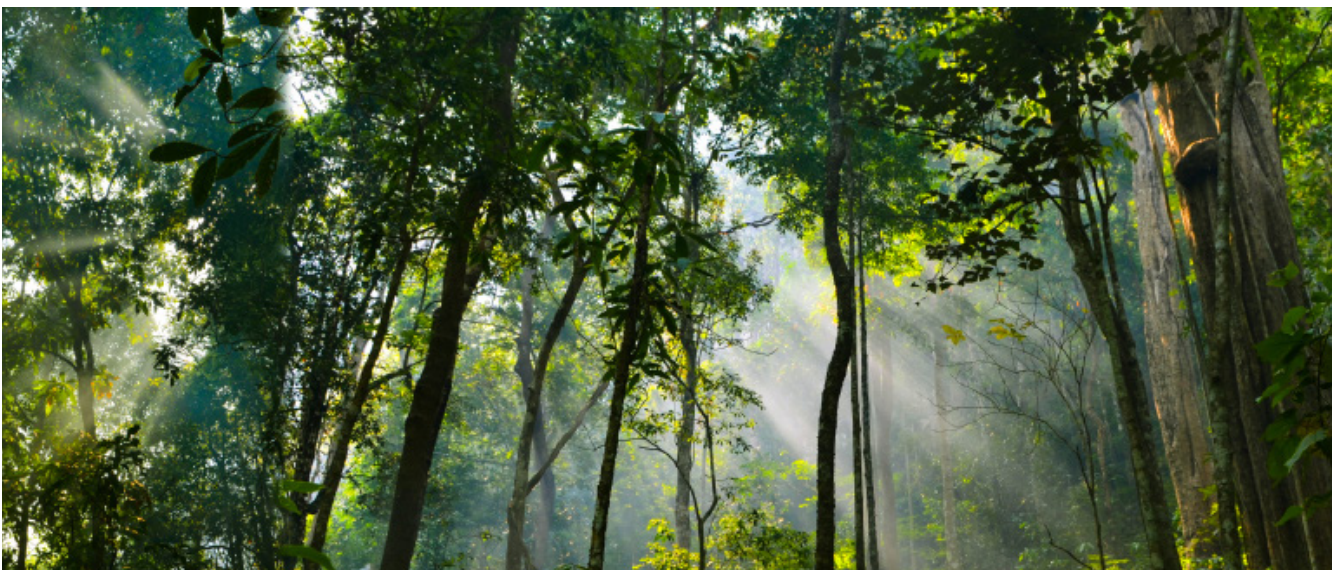


Implications of disclosures on organizations

The effect and nature of physical risks vary depending on how resilient an organization is to climate change, and as such, understanding physical risks is a key first step in building an organization's resilience.

With a careful climate scenario analysis, disclosures can actually reveal opportunities for organizations as the quantification and analytical process can facilitate an understanding of the consequences of investment decisions, business plans, and operations. The Securities and Exchange Commission's (SEC's) final rule, which leverages the TCFD guideline framework, as well as disclosures from other jurisdictions such as California's Climate-Related Financial Risk Act (SB 261), and the Corporate Sustainability Reporting Directive (CSRD) in the EU, include the disclosure and reporting of risks related to the physical impacts of climate change. Physical risk scenarios can help organizations in exploring questions such as: "What type of physical risks are material for our operations?" in the different regions where they operate, both in terms of production and where their customers reside, or "What if the physical consequences of climate change become more severe?" or "When, where, to whom, and to what degree might these physical impacts be felt?"

These disclosures are similar in that publicly traded companies must provide detailed information about the physical risks they face due to climate change. The goal is to enhance transparency, allowing investors to make more informed decisions by understanding how climate change might affect a company's business and financial health.





Other client considerations

Opportunities exist with regards to physical risks as well, both in terms of adaptation and mitigation. With adaptation there is an assumption that the more significant impacts of climate risks are inevitable. As such, organizations can intentionally adapt strategies such as building practices, investing in more resilient supply chains, and selecting physical locations to minimize the impacts of physical risks. Examples of this include proactively shifting production from areas that are susceptible to extreme weather events such as flooding and fires, and moving to more temperate areas or reducing dependence on transportation types that are significantly impacted by physical risks.

Mitigation takes a deeper view of physical risk in so far as an organization can aim at affecting future outcomes by proactively adopting energy efficient initiatives (e.g. adapt supply chains), explore different or new products and services (e.g. adopt insurance risk solutions or leverage other financial instruments), research markets (e.g. use of public sector incentives), or investigate resilience measures (e.g. diversify or substitute key production resources). An additional benefit of adopting a mitigation or adaptation mindset is that it can have secondary effects of increased reputation benefits and reduced costs over the long term. Indeed, proactive physical risk-minimizing strategies may also have positive effects on an organization's transition risks. In general, as quantification of physical risks are better understood and acted upon, organizations may be able to improve their climate-resiliency, and operational sustainability for the long term.

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